

A CELEBRATION OF THE NEW STEEL -- THE PITTSBURGH REGIONAL TECHNOLOGY SHOWCASE

Benefits

The Showcase demonstrated steelmaking and processing technology advancements that were accomplished through a number of partnership activities between the U.S. Department of Energy and the steel industry. As part of an outreach program, a large number of outside visitors were given the opportunity to learn more about:

- Demonstrated technologies that will improve energy efficiency and productivity and result in reduced environmental emissions
- The transfer of advanced technologies and concepts to industry
- The opportunity for additional partnerships with end-users, suppliers, equipment manufacturers, national laboratories, and universities

Offering your plant as a Technology Showcase affords the opportunity to demonstrate the latest in technology in your industry that could ultimately improve your productivity, equipment reliability, and safety. The U.S. Department of Energy's Office of Industrial Technologies will cost-share installation and help you collect data to confirm saving and productivity numbers. We will document and publish, as case studies, significant energy savings projects that you have already accomplished. At your request we will provide cost-shared energy assessments of your steam, compressed air, motor, pump, and fan systems. From a public relations standpoint, your company will be able to demonstrate that it is a technology leader in the industry. The Office of Industrial Technologies will support Technology Showcases in the following industries: Steel, Agriculture, Aluminum, Chemical, Forest Products, Glass, Metal Casting, Mining, and Petroleum.



PARTNERSHIPS SHOWCASE STEEL TECHNOLOGIES IN THE PITTSBURGH REGION

U.S. STEEL'S EDGAR THOMSON PLANT, WEIRTON STEEL, AND KOPPEL STEEL DEMONSTRATE ENERGY-EFFICIENCY AND PRODUCTIVITY IMPROVEMENTS

On May 3-5, 2000, the U.S. Department of Energy's Office of Industrial Technologies (OIT), the U.S. steel industry, and the State of Pennsylvania hosted "A Celebration of New Steel—The Pittsburgh Regional Technology Showcase" to demonstrate energy efficiency and productivity advancements. The Pittsburgh Regional Technology Showcase was a public event highlighting an intensive effort by the U.S. Department of Energy's Steel Industry of the Future Program to support and promote the use of advanced technologies by steel companies in the Pittsburgh region.

Over 350 guests from the steel industry, equipment manufacturers and suppliers, trade associations, National Laboratories, local schools and universities (teachers, professors, and students), and government attended the event, which featured plant tours, as well as technical sessions by some of the nation's leading steel researchers. Technology and industry decision-makers from the Pittsburgh region and the Nation and representatives of the other eight U.S. Department of Energy Industries of the Future (IOF) Program (Agriculture, Aluminum, Chemicals, Forest Products, Glass, Metal Casting, Mining, and Petroleum Refining) also attended.

The U.S. steel industry is a participant in OIT's "Industries of the Future" initiative. Through the Industries of the Future program, OIT and the steel industry partner to cost-share R&D. The Showcase highlighted the steel industry's continued progress in achieving its vision of the future through industry/government partnerships and energy-saving technologies and processes resulting from this partnership. The Showcase demonstrated the benefit of these partnerships through plant tours, exhibits, and technical sessions.

U.S. Steel's Edgar Thomson Plant, Weirton Steel Plant, and Koppel Steel Plant field-tested many of the new technologies. Participants were able to talk with experts about a wide variety of cutting-edge technologies including advanced sensing, advanced materials, efficient motor systems, low-NOx combustion, solid waste reduction, efficient steam and compressed air systems, and air pollution reduction techniques.



Results

Showcase Description

Goals: To illustrate the positive results of research performed through the various partnership activities between the U.S. Department of Energy and the steel industry and how energy-efficiency opportunities in plant operations can be captured through the U.S. Department of Energy's BestPractices Program. To demonstrate industry technology advancements and to showcase the achievements and continuing efforts to save energy, reduce pollution, and raise productivity in U.S. Steel's Edgar Thomson Plant, Weirton Steel Plant, and Koppel Steel Plant.

Technologies Showcased in the Pittsburgh Region

The event emphasized the importance of steel to the U.S. economy and the valuable role of Federal support in maintaining the industry's long-term competitiveness. Moreover, the Showcase demonstrated the Department of Energy's many ways of helping industry to improve efficiency and productivity through all facets of manufacturing and plant operations.

U.S. Steel's Edgar Thomson Plant, Weirton Steel Plant, and Koppel Steel Plant staff gave guests technical presentations and provided guided tours of selected sites within the plants that focused on cutting edge technologies resulting from the various partnership activities between the Department of Energy and the steel industry.

The plant tours demonstrated how OIT-supported R&D and "best practices" are enhancing the quality of steel and energy efficiency through featured technologies including the following:

Weirton Plant Technologies:

Double-Ended Laser Basic Oxygen Furnace Optical Sensor
Galvanneal Temperature Measurement Sensor
Infrared-Based Preheating of Strip
Nickel Aluminide Radiant Tubes
Nickel Aluminide Seal Rolls

U.S. Steel's Edgar Thomson Plant Technologies:

Laser-Based Blast Furnace Burden Temperature Measurement Sensor
Basic Oxygen Furnace Contour Scannerless Sensor
Top Blown Lance Optical Sensor at the Ladle Metallurgy Station
Single-Ended Laser Basic Oxygen Furnace Optical Sensor

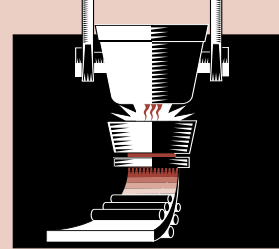
The Opening/Welcoming Session and Luncheon

Prominent members of government and industry spoke at the Showcase. During the Opening/Welcome Session on May 4, speakers included Denise F. Swink, Deputy Assistant Secretary for the Office of Industrial Technologies within the Office of Energy Efficiency and Renewable Energy; Dan Reicher, Assistant Secretary for the Office of Energy Efficiency and Renewable Energy; Andrew G. Sharkey, President and CEO of the American Iron and Steel; J. Paul Kadlic, Vice President of Sales of the U.S. Steel Corporation; and, Rita A. Bajura, Director of the National Energy Technology Laboratory (NETL), who discussed the steel industry projects supported by NETL. Thomas Murphy, Mayor of Pittsburgh, James M. Seif, Secretary for the Pennsylvania Department of Environmental Protection, and Curtis H. Barnette, Chairman Emeritus of the Bethlehem Steel Corporation, addressed participants during the luncheon. Denise Swink presented a special OIT award to Curtis H. Barnette in recognition of his contributions to the industry/government partnership highlighted by this Showcase.

The Congressional Field Hearing

On May 5, 2000, showcase participants attended a Congressional Field Hearing, The Future of the Steel Industry and the Role of Technology, chaired by Representative Mike Doyle, with remarks by Senator Rick Santorum, and Representatives Ron Klink and Frank R. Mascara. During the panel discussion, valuable testimonies were given emphasizing the importance of government/industry partnerships.

"A Celebration of New Steel" is the second technology showcase jointly sponsored by DOE and the steel industry. Due to the success of the Pittsburgh Regional Technology Showcase, plans are already being made for the next!



SHOWCASE ATTENDEES

The three-day intense, educational, public relations effort of the Showcase involved many organizations. Types of organizations and participants included:

- Equipment/technology decision-makers representing all U.S. steel manufacturing and major supplier companies
- State of Pennsylvania and other local officials
- Technology experts from Universities, the National Laboratory system, and industry suppliers
- Representatives from the media
- Students from the Pittsburgh area
- Federal government agencies and the public

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February 2001